

case, as shown in Fig. 1G that is an enlarged view of a portion G of Fig. 1F, the anisotropic conductive film sheet 10 is preferably provided by mixing an insulating resin 6m with an inorganic filler 6f of ceramics of spherical or pulverized silica, alumina or the like of a mean diameter smaller than the mean diameter of the conductive particles 10a in dispersion, flattening this by the doctor blade method or the like and vaporizing the solvent component for solidification and preferably have a heat resistance to the extent of tolerating a high temperature in the subsequent reflow process (for example, a heat resistance capable of tolerating a temperature of 240°C for ten seconds). The insulating resin can be provided by, for example, an insulative thermosetting resin (for example, epoxy resin, phenol resin, and polyimide) or an insulative thermoplastic resin (for example, polyphenylene sulfide (PPS), polycarbonate, and modified polyphenylene oxide (PPO)), a mixture of an insulative thermosetting resin with an insulative thermoplastic resin, or the like. In this case, description will be continued with the insulative thermosetting resin taken as a representative example. This insulative thermosetting resin 6m generally has a glass transition point of about 120 to 200°C. When a thermoplastic resin is only employed, the resin is once softened by heating at the beginning and then hardened by

being naturally cooled with the heating stopped. When a mixture of an insulative thermosetting resin with an insulative thermoplastic resin is employed, the resin is hardened by being heated similarly to the case of only the thermosetting resin is employed because the thermosetting resin functions predominantly.

Next, as shown in Fig. 1E and Fig. 1F, in an electronic component mounting apparatus 600 shown in Fig. 20, the chip 1 on which the bumps 3 are formed through the aforementioned process is sucked and held from a tray 602 by a heated bonding tool 8 located at the tip of a component holding member 601, and the IC chip 1 is pressed against the board 4 via an anisotropic conductive film sheet 10 while being aligned in position with the electrodes 5 of the board 4 corresponding to the electrodes 2 of the IC chip 1, the board 4 having been prepared through the aforementioned preceding process and mounted on a stage 9. This positional alignment is performed by a well-known position recognizing operation. For example, as shown in Fig. 21C, a positional recognition mark(s) 605 or a lead(s) or a land pattern(s) formed on the board 4 is recognized by a board recognizing camera 604 of the electronic component mounting apparatus 600. As shown in Fig. 21D, the position of the board 4 is recognized by recognizing the XY coordinate position in the orthogonal XY

directions on the stage 9 of the board 4 and the rotational position relative to the origin of the XY coordinate system on the basis of an image 606 obtained by the camera 604. On the other hand, a mark(s) 608 or a circuit pattern for recognizing the position of the IC chip 1 sucked and held by the bonding tool 8 is recognized by an IC chip position recognizing camera 603 as shown in Fig. 21A, and the position of the IC chip 1 is recognized by recognizing the XY coordinate position in the orthogonal XY directions of the IC chip 1 and the rotational position relative to the origin of the XY coordinate system on the basis of an image 607 obtained by the camera 603 as shown in Fig. 21B. Then, the bonding tool 8 or the stage 9 is moved on the basis of the position recognition results of the board 4 and the IC chip 1 to perform positional alignment so that the electrodes 2 of the IC chip 1 are positioned on the corresponding electrodes 5 of the board 4, and thereafter, the IC chip 1 is pressed against the board 4 by the heated bonding tool 8. At this time, the bump 3 is pressed against the electrode 5 of the board 4 in a manner that a head portion 3a of the bump 3 is deformed as shown in Fig. 4B and Fig. 4C. At this time, also in this embodiment similar to the first embodiment shown in Fig. 2A and Fig. 2B, the inorganic filler 6f in the thermosetting resin 6m is forced outwardly of the bump 3 by the pointed bump 3